QUIZ NAVIGATION

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Started on	Friday, 11 October 2024, 6:26 PM
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Grade	**8.00** out of 10.00 (**80%**)

Question 1

ID: 50260

Correct

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Send Feedback

JS is a 35-year-old male who presents to your clinic seeking advice on managing his depressive symptoms. He reports feeling persistently sad, experiencing low energy, and struggling with concentration and motivation for the past six months. He was diagnosed with Major Depressive Disorder by his family doctor 2 months ago, but has elected to try cognitive behavioural therapy first. He is hesitant to try medications as he is in a committed relationship and is concerned about the potential impact of antidepressant therapy on his sexual function. He denies any other significant medical conditions and is not currently taking any medications.

Considering his desire to minimize sexual side effects, which of the following antidepressants would be the most suitable recommendation for JS?

Select one:

a. Paroxetine ✖

b. Bupropion ✔

Rose Wang (ID:113212) this answer is correct. Bupropion has a low risk of causing sexual side effects so would be the best option to recommend to JS.

c. Amitriptyline ✖

d. Duloxetine ✖

Correct

Marks for this submission: 1.00/1.00.

TOPIC: Depression

LEARNING OBJECTIVE:

Identify antidepressants that have a relatively low risk of causing sexual dysfunction.

BACKGROUND:

Side effects of selective serotonin reuptake inhibitors (SSRIs) include insomnia (especially fluoxetine and sertraline which are more activating) or drowsiness, sexual dysfunction and Gastrointestinal (GI) upset. The central nervous system (CNS) and GI side effects normally subside within 2 weeks; however, sexual dysfunction could persist for the duration of treatment. Additionally, when initiating an SSRI or increasing the dose, anxiety and agitation are common side effects that may occur; however, they usually subside within a few weeks. SSRIs can increase the risk of GI bleeding and should be used with caution in individuals at higher risk of GI bleeding (such as concomitant NSAID use). In addition, fluoxetine has a uniquely long half-life of 4-6 days (9 days for active metabolite norfluoxetine), allowing for faster tapering upon discontinuation compared to other SSRIs. A meta-analysis comparing escitalopram to citalopram found that escitalopram, the stereoisomer of citalopram, was superior in efficacy, but comparable in adverse events to citalopram. Both citalopram and escitalopram carry the greatest risk amongst the SSRIs of prolongation of QTc. In addition, paroxetine has the greatest anticholinergic effects and causes the greatest amount of weight gain among the SSRI drug class. SNRIs (selective serotonin and norepinephrine reuptake inhibitors) are also first-line agents for depression and have some notable side effects compared to the SSRIs. All SNRIs may be associated with increased blood pressure and heart rate; therefore, these vital signs should be monitored prior to and during therapy. Dose-related hypertension may occur with doses of 225 mg or more daily of venlafaxine. Similarly, duloxetine has a risk of hypertension at higher doses of 120 mg/day. In addition to depression, duloxetine is used to treat neuropathic pain and fibromyalgia and may be beneficial if a patient with depression has these concomitant disorders. The newer agent, levomilnacipran, uniquely has more selectivity for norepinephrine than serotonin reuptake inhibition (2:1) compared to other SNRIs. Levomilnacipran is currently a second-line agent as there are fewer comparison studies to date and it is the most costly of the SNRI class. Moreover, desvenlafaxine is one of the few antidepressants that was evaluated and found to be effective in peri- and post-menopausal women. Bupropion is a first-line antidepressant and is also indicated for smoking cessation. Bupropion lowers the seizure threshold; therefore, it is contraindicated in patients with a seizure disorder, a recent history of anorexia or bulimia nervosa, severe head trauma, an electrolyte disorder, and in patients undergoing abrupt discontinuation of alcohol, benzodiazepines, barbiturates, or antiepileptic drugs. It should be used with caution with alcohol and other medications that reduce the seizure threshold, such as meperidine, tramadol, TCAs and theophylline. Compared to SSRIs, sexual dysfunction occurs less frequently with bupropion. Similarly, mirtazapine has low rates of sexual side effects and may be considered; although, mirtazapine is greatly associated with sedation and weight gain. TCAs (tricyclic antidepressants) are reserved as second-line agents due to their unfavourable side effect profiles. Cardiotoxicity and the risk of fatal overdoses are major safety concerns of TCAs. This class should generally be avoided in patients at risk of intentional overdose. Common side effects of this group of agents include sedation, weight gain, sexual dysfunction, GI upset, QT prolongation, hypotension and anticholinergic effects (e.g. dry mouth, orthostatic hypotension, constipation, drowsiness, blurred vision and memory impairment). Of note, the secondary amine TCAs are generally better tolerated, in terms of side effects, compared to the tertiary amines. In particular, desipramine and nortriptyline have less anticholinergic side effects and less weight gain than the tertiary amines.

RATIONALE:

Correct Answer:

- **Bupropion** - Bupropion has a low risk of causing sexual side effects so would be the best option to recommend to JS.

Incorrect Answers:

- **SSRIs** - SSRIs are known to cause relatively high incidences of sexual side effects.
- **TCAs** - TCAs are known to cause relatively high incidences of sexual side effects.
- **SNRIs** - SNRIs are known to cause a relatively high incidence of sexual side effects.

TAKEAWAY/KEY POINTS:

Bupropion has a relatively low propensity for causing sexual side effects.

REFERENCES:

[1] Higgins A, Nash M, Lynch AM. Antidepressant-associated sexual dysfunction: impact, effects, and treatment. *Drug Healthc Patient Saf*. 2010;2:141-150. doi:10.2147/DHPS.S7634.
[2] Kennedy SH, Parikh SV, and Grigoriadis S. Depression. In: Compendium of Therapeutic Choices. Ottawa, ON: Canadian Pharmacists Association. https://myrxtx.ca.
[3] VandenBerg AM. Depressive Disorders. In: DiPiro JT, Yee GC, Haines ST, Nolin TD, Ellingrod VL, Posey LM, eds. DiPiro's Pharmacotherapy: A Pathophysiologic Approach, 12th Edition. McGraw Hill; 2023.

The correct answer is: Bupropion

Question 2

ID: 50261

Incorrect

Flag question

Send Feedback

SD, a 32-year-old woman, is referred to you by her psychiatrist after a new diagnosis of Major Depressive Disorder (MDD). She has a prescription for citalopram and is eager to learn more about the medication. Prior to medication counselling, you ask SD what her symptoms are so that you can better tailor her counselling to the symptoms of MDD she is experiencing. She mentions a significant decrease in appetite, frequent episodes of excessive crying, and a noticeable increase in the amount of sleep she's getting each night. She also confides that she's having trouble staying focused at work and is worried about her ability to perform her job effectively. She has no other medical history or allergies and the only other medication she takes is vitamin D 2000 units PO daily.

Which of the following symptoms SD is experiencing is **NOT** a formal DSM-5 criteria for a Major Depressive Episode?

Select one:

a. Decreased appetite ✖ *Rose Wang (ID:113212) this answer is incorrect. A change in appetite can be due to depression and therefore is included in the DSM-5 criteria.*

b. Excessive crying ✔

c. Sleeping more than usual ✖

d. Trouble staying focused ✖

Incorrect

Marks for this submission: 0.00/1.00.

TOPIC: Depression

LEARNING OBJECTIVE:

Identify the core elements of the DSM-5 criteria for major depressive disorder.

BACKGROUND:

The DSM-5 (Diagnostic & Statistical Manual for Mental Health Disorders) is often how clinicians diagnose mental health disorders, including major depressive disorder (MDD). The symptom criteria for MDD include emotional symptoms, physical symptoms, and functional symptoms (e.g., symptoms impacting daily life). The core symptoms of the criteria are:

- depressed mood for most of the day
- reduced interest in most activities
- significant weight loss or weight gain not attributable to changes in diet
- hypersomnia or insomnia
- psychomotor agitation or retardation
- fatigue almost every day
- feelings of worthlessness
- reduced ability to think/concentrate
- recurrent thoughts of death/suicidal ideation

RATIONALE:

Correct Answer:

- **Excessive crying** - Excessive crying may occur in depression but is NOT a criterion included in the DSM-5.

Incorrect Answers:

- **Decreased appetite** - A change in appetite can be due to depression and therefore is included in the DSM-5 criteria.
- **Sleeping more than usual** - Changes in sleep patterns can be due to depression and therefore are included in the DSM-5 criteria.
- **Trouble staying focused** - Changes in focus can be due to depression and therefore are included in the DSM-5 criteria.

TAKEAWAY/KEY POINTS:

The DSM-5 criteria for MDD include symptoms that fall into the emotional, physical, and functional categories.

REFERENCE:

[1] Kennedy SH, Parikh SV, and Grigoriadis S. Depression. In: Compendium of Therapeutic Choices. Ottawa, ON: Canadian Pharmacists Association. https://myrxtx.ca. [2] Tolentino JC, Schmidt SL. DSM-5 Criteria and Depression Severity: Implications for Clinical Practice. *Front Psychiatry*. 2018;9:450. Published 2018 Oct 2. doi:10.3389/fpsyt.2018.00450

The correct answer is: Excessive crying

Question 3

ID: 34876

Correct

Flag question

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MK is a 32-year-old female who has just been diagnosed with her first major depressive episode. She will be started on antidepressant therapy. She has no relevant comorbidities or allergies. She is currently using naproxen sodium 220 mg PO PRN for headaches and menstrual pain.

According to CANMAT guidelines, all of the following are first-line antidepressants, **EXCEPT:**

Select one:

a. Amitriptyline ✔

Rose Wang (ID:113212) this answer is correct. Tricyclic Antidepressants (TCAs) are considered second-line options, along with other medications such as quetiapine and trazodone.

b. Mirtazapine ✖

c. Venlafaxine XR ✖

d. Sertraline ✖

Correct

Marks for this submission: 1.00/1.00.

TOPIC: Depression

LEARNING OBJECTIVE:

Recognize which treatment options are first-line for major depressive disorder (MDD).

BACKGROUND:

MDD is a mental health disorder characterized by a state of low/depressed mood which impacts an individual's emotional, physical, cognitive, and behavioural well-being. MDD is diagnosed using the DSM-5 criteria which identify key symptoms such as appetite changes, sleep changes, depressed mood, loss of pleasure, and their impact on a person's functionality.

Non-pharmacologic and pharmacologic therapy is the mainstay of treatment.

Various antidepressants have been developed and tested to treat MDD. Different classes have different side effect profiles, and drug interaction profiles. Generally speaking, first-line options are tried first, based on patient characteristics (comorbidities, drug interactions, cost etc.).

First-line therapies for depression include Selective Serotonin reuptake inhibitors (SSRIs), Serotonin-Norepinephrine Reuptake Inhibitors (SNRIs), bupropion, mirtazapine, and vortioxetine. The first-line SSRIs include citalopram, escitalopram, fluoxetine, fluvoxamine, paroxetine, sertraline, and the first-line SNRIs include desvenlafaxine, duloxetine, venlafaxine. A network meta-analysis of 21 antidepressants found escitalopram, sertraline, mirtazapine, and venlafaxine to be superior in efficacy for the treatment of depression. St. John's Wort is a natural health product that is also a first-line agent if MDD is mild to moderate in severity and after potential drug interactions have been considered. There are a number of drug interactions that exist with St. John's Wort as it is a potent inducer of CYP3A4 and P-glycoprotein.

Second-line therapies for depression include levomilnacipran (SNRI), moclobemide (reversible Monoamine Oxidase Inhibitors, MAOIs), quetiapine, trazodone, Tricyclic Antidepressants (TCAs) and vilazodone. TCAs include the tertiary amines amitriptyline, clomipramine, doxepin, trimipramine and imipramine, and the secondary amines desipramine and nortriptyline. Third-line antidepressants include the irreversible MAOIs phenelzine and tranylcypromine.

Rationale

Correct Answer:

(Choice #1): Tricyclic Antidepressants (TCAs) are considered second-line options, along with other medications such as quetiapine and trazodone.

Incorrect Answers:

(Choice #2): Evidence supports the use of mirtazapine as a first-line option.

(Choice #3): Evidence supports the use of venlafaxine as a first-line option.

(Choice #4): Evidence supports the use of sertraline as a first-line option.

TAKEAWAY/KEY POINTS:

TCAs are second-line options for the treatment of MDD.

REFERENCE:

[1] Kennedy SH, Lam RW, McIntyre RS, et al. Canadian Network for Mood and Anxiety Treatments (CANMAT) 2016 Clinical Guidelines for the Management of Adults with Major Depressive Disorder: Section 3. Pharmacological Treatments. *Can J Psychiatry*. 2016;61(9):540-560. doi:10.1177/0706743716659417.

The correct answer is: Amitriptyline

Question 4

ID: 50263

Correct

Flag question

Send Feedback

SB is a 68-year-old male who is a regular patient at your clinic. His physician recently prescribed SB a course of ciprofloxacin 500 mg PO BID x 7 days for an episode of acute cystitis. He has no medical allergies and his medical history includes Major Depressive Disorder (MDD) and hypercholesterolemia. His current medications include rosuvastatin 20 mg PO daily, acetaminophen 500 mg PO PRN for headaches, and an antidepressant.

Which of the following antidepressants would carry the greatest risk of interacting with ciprofloxacin and increasing the risk of QTc interval prolongation?

Select one:

a. Paroxetine ✖

b. Sertraline ✖

c. Citalopram ✔

Rose Wang (ID:113212) this answer is correct. Citalopram carries one of the greatest risks of prolongation of QTc interval.

d. Fluoxetine ✖

Correct

Marks for this submission: 1.00/1.00.

TOPIC: Depression

LEARNING OBJECTIVE:

Identify which treatment choices for major depressive disorder (MDD) carry the risk of QTc interval prolongation.

BACKGROUND:

Side effects of Selective Serotonin Reuptake Inhibitors (SSRIs) include insomnia (especially fluoxetine and sertraline which are more activating) or drowsiness, sexual dysfunction and Gastrointestinal (GI) upset. The CNS and GI side effects normally subside within 2 weeks; however, sexual dysfunction could persist for the duration of treatment. Additionally, when initiating an SSRI or increasing the dose, anxiety and agitation are common side effects that may occur; however, they usually subside within a few weeks. SSRIs can increase the risk of GI bleeding and should be used with caution in individuals at higher risk of GI bleeding (such as concomitant NSAID use). In addition, fluoxetine has a uniquely long half-life of 4-6 days (9 days for active metabolite norfluoxetine), allowing for faster tapering upon discontinuation compared to other SSRIs. A meta-analysis comparing escitalopram to citalopram found that escitalopram, the stereoisomer of citalopram, was superior in efficacy, but comparable in adverse events to citalopram. Both citalopram and escitalopram carry the greatest risk amongst the SSRIs of prolongation of QTc. In addition, paroxetine has the greatest anticholinergic effects and causes the greatest amount of weight gain among the SSRI drug class.

RATIONALE:

Correct Answer:

- **Citalopram** - Citalopram carries one of the greatest risks amongst the SSRIs of prolongation of QTc interval.

Incorrect Answers:

- **Paroxetine** - Paroxetine does not carry the greatest risk of QTc interval prolongation.
- **Sertraline** - Sertraline does not carry the greatest risk of QTc interval prolongation.
- **Fluoxetine** - Fluoxetine does not carry the greatest risk of QTc interval prolongation.

TAKEAWAY/KEY POINTS:

The use of multiple concomitant QTc-prolonging agents should be avoided to minimize the risk of additive QT-prolongation. Among first-line treatment options for MDD, both citalopram and escitalopram carry the greatest risk of prolongation of QTc interval.

REFERENCE:

[1] Kennedy SH, Lam RW, McIntyre RS, et al. Canadian Network for Mood and Anxiety Treatments (CANMAT) 2016 Clinical Guidelines for the Management of Adults with Major Depressive Disorder: Section 3. Pharmacological Treatments. *Can J Psychiatry*. 2016;61(9):540-560. doi:10.1177/0706743716659417.

The correct answer is: Citalopram

Question 5

ID: 50266

Correct

Flag question

Send Feedback

In your role as a pharmacy resident assigned to the inpatient mental health ward, the psychiatric team has requested your assistance in a discussion about Monoamine Oxidase Inhibitors (MAOIs) with a patient named JT. JT is a 36-year-old male, who was recently admitted to the hospital due to an episode of depression. He is allergic to azithromycin, which has previously caused hives and itchiness. His past medical history includes major depressive disorder, anxiety, and hypertension. His current medications include lorazepam 0.5 mg PO PRN for anxiety and amlodipine 5 mg PO daily. The primary objective of your conversation is to ensure that JT is well-informed about the potential side effects, dietary restrictions, and implications associated with the possibility of switching from an MAOI to another antidepressant in the future.

Which of the following statements about Monoamine Oxidase Inhibitors (MAOIs) is **INCORRECT** to provide to JT?

Select one:

a. Common side effects of MAOIs include insomnia, tachycardia, weight gain, and orthostatic hypotension ✖

b. The washout period varies when switching from a MAOI to another antidepressant to minimize the risk of serotonin syndrome ✖

c. Moclobemide is a reversible MAOI and is a third-line therapy for depression ✔

Rose Wang (ID:113212) this answer is correct. Moclobemide is a reversible MAOI and is considered second-line therapy for depression.

d. A patient on the irreversible MAOI, phenelzine, should avoid consuming foods with high amounts of tyramine like Stilton cheese ✖

Correct

Marks for this submission: 1.00/1.00.

TOPIC: Depression

LEARNING OBJECTIVE:

Identify important considerations with MAOI therapy.

BACKGROUND:

Second-line therapies for depression include levomilnacipran (SNRI), moclobemide (reversible Monoamine Oxidase Inhibitors, MAOIs), quetiapine, trazodone, Tricyclic Antidepressants (TCAs) and vilazodone. TCAs include the tertiary amines amitriptyline, clomipramine, doxepin, trimipramine and imipramine, and the secondary amines desipramine and nortriptyline. Third-line antidepressants include the irreversible MAOIs phenelzine and tranylcypromine. Common side effects of MAOIs include insomnia, palpitations, tachycardia, orthostatic hypotension, sexual dysfunction, ACH effects, weight gain, cardiac effects, headaches, nausea, and vomiting. Irreversible MAOIs have the highest risk of serotonin syndrome and require a washout period when switching to another antidepressant. The duration of this period varies based on the agent used. Serotonin syndrome is a rare, serious adverse event that can be described by the mnemonic SHIVERS, which may include shivering, hyperreflexia (overactive reflexes), increased temperature, unstable vital signs (increased heart rate and respiratory rate and low blood pressure), encephalopathy, restlessness, and sweating. These symptoms can arise when there is too much serotonin in the body and this usually occurs when multiple serotonergic agents are being used at the same time. If serotonin syndrome is suspected, the precipitating medication should be stopped and the patient should be referred to the hospital. The third-line irreversible MAOIs, phenelzine and tranylcypromine, are often reserved to be used only in specialized mood disorder clinics due to their potentially fatal food and drug interactions. A sudden and severe increase in blood pressure (hypertensive crisis) can occur with ingestion of tyramine-rich foods/beverages. Tyramine is an amine derived from the amino acid tyrosine that is found naturally in the body and in certain foods. Tyramine plays a role in regulating blood pressure and is metabolized by MAO enzymes. MAO enzymes also metabolize neurotransmitters such as norepinephrine, serotonin, and dopamine. There are two types of MAO enzymes: MAO-A and MAO-B. MAO-A enzymes are primarily distributed in the placenta, gut, and liver whereas MAO-B enzymes are primarily present in the brain, liver, and platelets. Serotonin and noradrenaline (norepinephrine) are substrates of MAO-A whereas dopamine and tyramine are both substrates of MAO-A and MAO-B. MAOIs inhibit the breakdown of these neurotransmitters which results in elevated levels of neurotransmitters and tyramine. Patients who take irreversible MAOIs like tranylcypromine and phenelzine should avoid consuming tyramine-rich foods such as Stilton cheese because this combination significantly increases tyramine levels which can result in a potentially fatal hypertensive crisis characterized by increased blood pressure, chest pain, and headaches.

RATIONALE:

Correct Answer:

- **Moclobemide is a reversible MAOI and is a third-line therapy for depression** - Moclobemide is a reversible MAOI and is considered second-line therapy for depression.

Incorrect Answers:

- **Common side effects of MAOIs include insomnia, tachycardia, weight gain, and orthostatic hypotension** - Common side effects of MAOIs do include insomnia, tachycardia, weight gain, and orthostatic hypotension, among others.
- **The washout period varies when switching from a MAOI to another antidepressant to minimize the risk of serotonin syndrome** - The washout period varies when switching from a MAOI to another antidepressant to minimize the risk of serotonin syndrome.
- **A patient on the irreversible MAOI, phenelzine, should avoid consuming foods with high amounts of tyramine like Stilton cheese** - Patients who take irreversible MAOIs should avoid consuming tyramine-rich food like Stilton cheese due to the increased risk of hypertensive crisis

TAKEAWAY/KEY POINTS:

Side effects, tapering, and drug and food interactions are important considerations for patients on MAOI therapy.

REFERENCES:

[1] Kennedy SH, Parikh SV, and Grigoriadis S. Depression. In: Compendium of Therapeutic Choices. Ottawa, ON: Canadian Pharmacists Association. https://myrxtx.ca.
[2] Kennedy SH, Lam RW, McIntyre RS, et al. Canadian Network for Mood and Anxiety Treatments (CANMAT) 2016 Clinical Guidelines for the Management of Adults with Major Depressive Disorder: Section 3. Pharmacological Treatments. *Can J Psychiatry*. 2016;61(9):540-560. doi:10.1177/0706743716659417.

The correct answer is: Moclobemide is a reversible MAOI and is a third-line therapy for depression

Question 6

ID: 50267

Incorrect

Flag question

Send Feedback

ES is a 30-year-old female patient with a 6-week history of the following symptoms, which she experiences almost daily:

- **Depressed mood**
- **Decreased appetite**
- **Difficulty concentrating**
- **Suicidal ideations but no specific plan or intentions to act on and no previous suicide attempt**

She has no known allergies and no other medical conditions. She is not on any prescription medications but she takes a multivitamin + minerals PO daily.

After meeting with her physician, ES agrees to a begin a trial of sertraline 25 mg PO daily.

Which of the following statements is correct?

Select one:

a. The appropriate duration of treatment for ES is 6 - 9 months after remission ✖

Rose Wang (ID:113212) this answer is incorrect. Suicidality is an indication for a minimum treatment duration of 2 years.

b. Follow-up should be done within 1 - 2 weeks from today ✔

c. A common side effect of sertraline is low Vitamin B12 levels ✖

d. If ES becomes pregnant, her antidepressant should be switched ✖

Incorrect

Marks for this submission: 0.00/1.00.

TOPIC: Depression

LEARNING OBJECTIVE:

Recognize important monitoring parameters when initiating antidepressants for Major Depressive Disorder (MDD).

BACKGROUND:

Various antidepressants have been developed and tested to treat MDD. Different classes have different side effect profiles, and drug interaction profiles. Generally speaking, first-line options are tried first based on patient characteristics (comorbidities, drug interactions, cost etc.). Once treatment is started, patients should be monitored for side effects of the antidepressant, improvement in their emotional, and physical symptoms, and improvement in their functionality. These parameters need to be measured at different times because the drugs often affect each category differently. When monitoring for tolerability, side effects can be realized within 1-2 weeks. Early improvement of physical symptoms can occur within 2-4 weeks while cognitive and emotional symptoms take longer to show improvement (around 4-6 weeks). The full effect of treatment may take up to 8-12 weeks to demonstrate its efficacy. Once symptom remission is achieved, the antidepressant treatment should be maintained for 6 to 9 months, or for at least 2 years in some cases, to reduce relapse rates. Longer maintenance treatment of 2 years or more is recommended if the following risk factors for recurrence are present: psychiatric comorbidities, frequent and recurrent episodes (3 or more), residual symptoms (lack of remission), severe episodes (ie. suicidality), or difficult-to-treat or chronic episodes. Among the adverse effects, suicidality is an important risk associated with antidepressants. A systematic review including more than 200,000 adults with moderate to severe depression showed that SSRIs reduced the risk of suicide by more than 40%. However, the risk of suicide among adolescents was found to have doubled with SSRI therapy. Therefore, careful assessment and monitoring of any suicidal ideations, especially during the early phase of treatment and particularly in children and adolescents, is crucial. Side effects of SSRIs include insomnia (especially fluoxetine and sertraline which are more activating) or drowsiness, sexual dysfunction and Gastrointestinal (GI) upset. The CNS and GI side effects normally subside within 2 weeks; however, sexual dysfunction could persist for the duration of treatment. Additionally, when initiating an SSRI or increasing the dose, anxiety and agitation are common side effects that may occur; however, they usually subside within a few weeks. SSRIs can increase the risk of GI bleeding and should be used with caution in individuals at higher risk of GI bleeding (such as concomitant NSAID use). Decision-making around treatment of depression during pregnancy should be based on a risk-benefit analysis that considers both the fetus and mother. If depressive symptoms are mild, psychotherapy is the recommended treatment option. However, if depression is moderate to severe, antidepressants at the lowest effective dosage are recommended. First-line pharmacological options for depression in pregnancy include citalopram, escitalopram, and sertraline. Second-line options include bupropion, desvenlafaxine, duloxetine, fluoxetine, fluvoxamine, mirtazapine, TCAs (except clomipramine and doxepin) and venlafaxine. Paroxetine should be avoided as it has been associated with major cardiovascular malformations. MAOIs and doxepin should also be avoided during pregnancy.

RATIONALE:

RATIONALE:

Correct Answer:

- **Follow-up should be done within 1 - 2 weeks from today** - Follow-up should be done within 2 weeks of initiating an antidepressant to assess the safety, tolerability, and early improvement.

Incorrect Answers:

- **The appropriate duration of treatment for ES is 6 - 9 months after remission** - Suicidality is an indication for a minimum treatment duration of 2 years.
- **A common side effect of sertraline is low Vitamin B12 levels** - Low Vitamin B12 levels is not a common side effect of sertraline.
- **If ES becomes pregnant, her antidepressant should be switched** - First-line pharmacological options for depression in pregnancy include citalopram, escitalopram, and sertraline.

TAKEAWAY/KEY POINTS:

Once antidepressant treatment is started, patients should be monitored for side effects of the antidepressant, improvement in their emotional, and physical symptoms, and improvement in their functionality. It is also important to ensure the patient will receive an appropriate duration of therapy and regular monitoring for changes in any comorbid conditions.

REFERENCE:

[1] Kennedy SH, Lam RW, McIntyre RS, et al. Canadian Network for Mood and Anxiety Treatments (CANMAT) 2016 Clinical Guidelines for the Management of Adults with Major Depressive Disorder: Section 3. Pharmacological Treatments. *Can J Psychiatry*. 2016;61(9):540-560. doi:10.1177/0706743716659417.

The correct answer is: Follow-up should be done within 1 - 2 weeks from today

Question 7

ID: 50269

Correct

Flag question

Send Feedback

ES, a 29-year-old female, discreetly approaches you at your pharmacy and requests a private consultation. She is seeking guidance for managing her mild depressive symptoms. ES expresses concerns about initiating medication and inquires if you can recommend any over-the-counter products or non-pharmacological treatment options. She has no known allergies and has a medical history of seasonal allergies, for which she takes cetirizine 10 mg PO daily.

Which of the following treatments, as monotherapy, is comparable in efficacy to first-line drug therapy for mild to moderate depressive symptoms?

Select one:

a. Light therapy ✖

b. Cognitive behavioural therapy ✔

Rose Wang (ID:113212) this answer is correct. Cognitive Behavioural Therapy (CBT) is considered first-line and is as effective as medication for mild to moderate depression.

c. Assertive community treatment for medication adherence ✖

d. Vitamin D supplementation ✖

Correct

Marks for this submission: 1.00/1.00.

TOPIC: Depression

LEARNING OBJECTIVE:

Recognize effective alternative treatment to drug therapy for mild-moderate major depressive disorder.

BACKGROUND:

Major Depressive Disorder (MDD) is a mental health disorder characterized by a state of low/depressed mood which impacts an individual's emotional, physical, cognitive, and behavioural well-being. MDD is diagnosed using the DSM-5 criteria which identify symptoms such as appetite changes, sleep changes, depressed mood, loss of pleasure and their impact on a person's functionality. Non-pharmacologic and pharmacologic therapy is the mainstay of treatment. In mild to moderate depression, cognitive behavioural therapy (CBT) has been found to be as effective as drug therapy. This is an effective alternative for clinicians to consider. Barriers to entry include cost and convenience. Light therapy is not used as monotherapy unless the patient has components of seasonal affective disorder as well. Physical exercise is commonly used as an adjunct in patients with mild-moderate depression.

RATIONALE:

Correct Answer:

- **Cognitive behavioural therapy (CBT)** - Cognitive behavioural therapy (CBT) is considered first-line and is as effective as medication for mild to moderate depression.

Incorrect Answers:

- **Light therapy** - Light therapy is not used as monotherapy unless there is also a seasonal pattern involved.

- **Assertive community treatment for medication adherence** - This may help but it is not a first-line option monotherapy according to the guidelines.
- **Vitamin D supplementation** - There is no evidence that vitamin D supplementation monotherapy is useful for depression.

TAKEAWAY/KEY POINTS:

Cognitive behavioural therapy (CBT) has been proven to be effective as drug therapy for mild to moderate depression.

REFERENCE:

[1] Parikh SV, Quilty LC, Ravitz P, et al. Canadian Network for Mood and Anxiety Treatments (CANMAT) 2016 Clinical Guidelines for the Management of Adults with Major Depressive Disorder: Section 2. Psychological Treatments. *Can J Psychiatry*. 2016;61(9):524-539. doi:10.1177/0706743716659418.
[2] Kennedy SH, Parikh SV, and Grigoriadis S. Depression. In: Compendium of Therapeutic Choices. Ottawa, ON: Canadian Pharmacists Association. https://myrxtx.ca.

The correct answer is: Cognitive behavioural therapy

Question 8

ID: 50270

Correct

Flag question

Send Feedback

KH is a 47-year-old female who is a regular patient at your clinic. Her medical history includes Major Depressive Disorder (MDD) and chronic back pain. KH is assessed at your clinic using a validated depression rating scale and is found to have severe symptoms of depression. She has no known allergies and is on the following medications:

- **Paroxetine 10mg PO QHS**
- **Acetaminophen 650 mg PO TID PRN**

Over the 4 weeks after initiation of paroxetine, her dose is titrated to 30 mg PO QHS. Her 6-week follow-up appointment is today. The patient tells you that she is starting to feel better, but she is not yet in remission. Upon assessment today with the same validated depression rating scale, she is found to have minor symptoms of depression. When asked about side effects, she tells you she experiences some sexual dysfunction but does not find it bothersome. KH has not tried any other treatment options for her depression previously.

All of the following options are reasonable to recommend **EXCEPT:**

Select one:

a. Switch to mirtazapine ✖

b. Increase her dose of paroxetine ✖

c. Switch to escitalopram ✖

d. Augment with venlafaxine ✔

Rose Wang (ID:113212) this answer is correct. Augmentation with a Serotonin-Norepinephrine Reuptake Inhibitor (SNRI) is not a first-line option as per guideline recommendations.

Correct

Marks for this submission: 1.00/1.00.

TOPIC: Depression

LEARNING OBJECTIVE:

To identify the next steps when a patient presents with partial improvement of symptoms of major depressive disorder (MDD).

BACKGROUND:

Major Depressive Disorder (MDD) is a mental health disorder characterized by a state of low/depressed mood which impacts an individual's emotional, physical, cognitive, and behavioural well-being. MDD is diagnosed using the DSM-5 criteria which identify symptoms such as appetite changes, sleep changes, depressed mood, loss of pleasure and their impact on a person's functionality. Non-pharmacologic and pharmacologic therapy is the mainstay of treatment. Various antidepressants have been developed and tested to treat MDD. Different classes have different side effect profiles, and drug interaction profiles. Generally speaking, first-line options are tried first based on patient characteristics (comorbidities, drug interactions, cost etc.). Once treatment is started, patients should be monitored for side effects of the antidepressant, improvement in their emotional, and physical symptoms, and improvement in their functionality. These parameters need to be measured at different times because the drugs often affect each category differently. The onset of therapeutic effects for antidepressants is usually 2-4 weeks. Improvement is defined as a 20 to 30% or greater reduction in symptoms after 2-4 weeks of therapy, where improvement is assessed using a validated depression rating scale. As partial improvement has been realized, optimization of the dose is a reasonable next step. If tolerability is a concern, a trial of a different antidepressant is also reasonable. Alternatively, adding-on therapy can be considered. This is described as augmentation therapy and the first-line adjunctive agents that have shown superior efficacy include aripiprazole, quetiapine, and risperidone.

RATIONALE:

Correct Answer:

- **Augment with venlafaxine** - Augmentation with a SNRI is not a first-line option as per guideline recommendations.

Incorrect Answers:

- **Switch to mirtazapine** - Switching to mirtazapine is a reasonable option to consider as per guideline recommendations.
- **Increase her dose of paroxetine** - Increasing the paroxetine dose is a reasonable option to consider as per guideline recommendations.
- **Switch to escitalopram** - Switching to escitalopram is a reasonable option to consider as per guideline recommendations.

TAKEAWAY/KEY POINTS:

As a partial improvement of depression symptoms has been realized, optimization of the dose is a reasonable next step. If tolerability is a concern, a trial of a different antidepressant is also reasonable. Alternatively, adding-on therapy can be considered. This is described as augmentation therapy and the first-line adjunctive agents that have shown superior efficacy include aripiprazole, quetiapine, and risperidone.

REFERENCE:

[1] Kennedy SH, Lam RW, McIntyre RS, et al. Canadian Network for Mood and Anxiety Treatments (CANMAT) 2016 Clinical Guidelines for the Management of Adults with Major Depressive Disorder: Section 3. Pharmacological Treatments. *Can J Psychiatry*. 2016;61(9):540-560. doi:10.1177/0706743716659417. [2] Kennedy SH, Parikh SV, and Grigoriadis S. Depression. In: Compendium of Therapeutic Choices. Ottawa, ON: Canadian Pharmacists Association. https://myrxtx.ca.

The correct answer is: Augment with venlafaxine

Question 9

ID: 50271

Correct

Flag question

Send Feedback

AG is a 24-year-old female who was recently diagnosed with Major Depressive Disorder (MDD). She has an anaphylactic allergy to penicillin. She is currently not on any medications and has no medical conditions but she has recently recovered from anorexia nervosa which she has had for the last 6 years. Her current BMI is now normalized at 18.5 kg/m^2.

Which of the following medications is **NOT** appropriate to recommend for AG?

Select one:

a. Bupropion ✔ *Rose Wang (ID:113212) this answer is correct. Bupropion is contraindicated in patients with a recent history of anorexia nervosa due to increased seizure risk.*

b. Sertraline ✖

c. Venlafaxine ✖

d. Paroxetine ✖

Correct

Marks for this submission: 1.00/1.00.

TOPIC: Depression

LEARNING OBJECTIVE:

Identify contraindications for certain antidepressants.

BACKGROUND:

Important considerations when selecting an antidepressant include the antidepressant side effect profile, patient's comorbid conditions, patient preference, potential interactions with other medications, and cost and convenience. Side effects of SSRIs include insomnia (especially fluoxetine and sertraline which are more activating) or drowsiness, sexual dysfunction and gastrointestinal (GI) upset. The CNS and GI side effects normally subside within 2 weeks; however, sexual dysfunction could persist for the duration of treatment. Additionally, when initiating an SSRI or increasing the dose, anxiety and agitation are common side effects that may occur; however, they usually subside within a few weeks. SSRIs can increase the risk of GI bleeding and should be used with caution in individuals at higher risk of GI bleeding (such as concomitant NSAID use). In addition, fluoxetine has a uniquely long half-life of 4-6 days (9 days for active metabolite norfluoxetine), allowing for faster tapering upon discontinuation compared to other SSRIs. A meta-analysis comparing escitalopram to citalopram found that escitalopram, the stereoisomer of citalopram, was superior in efficacy, but comparable in adverse events to citalopram. Both citalopram and escitalopram carry the greatest risk amongst the SSRIs of prolongation of QTc. In addition, paroxetine has the greatest anticholinergic effects and causes the greatest amount of weight gain among the SSRI drug class. SNRIs are also first-line agents for depression and have some notable side effects compared to the SSRIs. All SNRIs may be associated with increased blood pressure and heart rate; therefore, these vital signs should be monitored prior to and during therapy. Dose-related hypertension may occur with doses of 225 mg or more daily of venlafaxine. Similarly, duloxetine has a risk of hypertension at higher doses of 120 mg/day. In addition to depression, duloxetine is used to treat neuropathic pain and fibromyalgia and may be beneficial if a patient with depression has these concomitant disorders. The newer agent, levomilnacipran, uniquely has more selectivity for norepinephrine than serotonin reuptake inhibition (2:1) compared to other SNRIs. Levomilnacipran is currently a second-line agent as there are fewer comparison studies to date and it is the most costly of the SNRI class. Moreover, desvenlafaxine is one of the few antidepressants that was evaluated and found to be effective in peri- and post-menopausal women. Bupropion is a first-line antidepressant and is also indicated for smoking cessation. Bupropion lowers the seizure threshold; therefore, it is contraindicated in patients with a seizure disorder, a recent history of anorexia or bulimia nervosa, severe head trauma, an electrolyte disorder, and in patients undergoing abrupt discontinuation of alcohol, benzodiazepines, barbiturates, or antiepileptic drugs. It should be used with caution with alcohol and other medications that reduce the seizure threshold, such as meperidine, tramadol, TCAs and theophylline. Compared to SSRIs, sexual dysfunction occurs less frequently with bupropion. Similarly, mirtazapine has low rates of sexual side effects and may be considered; although, mirtazapine is greatly associated with sedation and weight gain.

RATIONALE:

Correct Answer:

- **Bupropion** - Bupropion is contraindicated in patients with anorexia nervosa due to increased seizure risk.

Incorrect Answers:

- **Sertraline** - Selective Serotonin Reuptake Inhibitors (SSRIs) are appropriate in patients with eating disorders.
- **Venlafaxine** - Venlafaxine is appropriate in patients with eating disorders.
- **Paroxetine** - Selective Serotonin Reuptake Inhibitors (SSRIs) are appropriate in patients with eating disorders.

TAKEAWAY/KEY POINTS:

Bupropion lowers the seizure threshold; therefore, it is contraindicated in patients with a seizure disorder, a recent history of anorexia or bulimia nervosa, severe head trauma, an electrolyte disorder, and in patients undergoing abrupt discontinuation of alcohol, benzodiazepines, barbiturates, or antiepileptic drugs.

REFERENCE:

[1] Kennedy SH, Parikh SV, and Grigoriadis S. Depression. In: Compendium of Therapeutic Choices. Ottawa, ON: Canadian Pharmacists Association. https://myrxtx.ca.
[2] Teter CJ, Kando JC, Wells BG. Major Depressive Disorder. In: DiPiro JT, Talbert RL, Yee GC, Matzke GR, Wells BG, Posey L. eds. Pharmacotherapy: A Pathophysiologic Approach. 10th ed. McGraw-Hill; 2017:chap 68.

The correct answer is: Bupropion

Question 10

ID: 50309

Correct

Flag question

Send Feedback

JA is a 72-year-old male patient who is well-known to your clinic. He has no medication allergies, but he is intolerant to statins due to severe muscle pain. His medical history includes dyslipidemia, hypertension, and major depressive disorder (3 depressive episodes in the last 4 years). His current medications include ezetimibe 10 mg PO daily, ramipril 5 mg PO daily, and sertraline 75 mg PO daily (started eight months ago). Today, he visits the clinic with his daughter Ruth, who is delighted to report her father has had a consistent improvement in mood over the past six months. Ruth expresses her desire to explore the possibility of discontinuing his antidepressant since he's currently feeling significantly better.

What is the most appropriate recommendation to provide Ruth regarding the duration of therapy for JA's sertraline?

Select one:

- Sertaline should be discontinued since JA is feeling beter ✖
- JA should continue taking sertraline for at least 2 years ✔

Rose Wang (ID:113212) this answer is correct.
Since JA has had 3 episodes of depression and is of older age, he should continue antidepressant therapy for at least 2 years to reduce the risk of relapse.

- JA requires life-long therapy with sertraline ✖
- JA should continue for 1 more month and then consider discontinuation of sertraline ✖

Correct

Marks for this submission: 1.00/1.00.

TOPIC: Depression

LEARNING OBJECTIVE:

Identify the factors that influence the duration of antidepressant therapy.

BACKGROUND:

Once symptom remission is achieved, the antidepressant treatment should be maintained for 6 to 9 months, or for at least 2 years in some cases, to reduce relapse rates. Longer maintenance treatment of 2 years or more is recommended if the following risk factors for recurrence are present: older age, psychiatric comorbidities, frequent and recurrent episodes (3 or more), residual symptoms (lack of remission), severe episodes (i.e., suicidality), or difficult-to-treat or chronic episodes.

RATIONALE:

Correct Answer:

- **JA should continue taking sertraline for at least 2 years** - Since JA has had 3 episodes of depression and is of older age, he should continue antidepressant therapy for at least 2 years to reduce the risk of relapse.

Incorrect Answers:

- **Sertaline should be discontinued since JA is feeling beter** - To reduce the risk of relapse, JA should not discontinue his sertraline.

- **JA requires life-long therapy with sertraline** - JA may not require life-long therapy if after 2 years he returns to full function and quality of life.
- **JA should continue for 1 more month and then consider discontinuation of sertraline** - JA is unlikely to qualify for discontinuation of sertraline at 9 months due to his older age and his history of 3 episodes of depression.

TAKEAWAY/KEY POINTS:

Factors such as older age, psychotic features, suicidality, frequent episodes, residual symptoms, difficult-to-treat episodes, co-morbid psychiatric or medical conditions can influence the duration of antidepressant therapy.

REFERENCE:

[1] Kennedy SH, Parikh SV, and Grigoriadis S. Depression. In: Compendium of Therapeutic Choices. Ottawa, ON: Canadian Pharmacists Association. https://myrxtx.ca.
[2] VandenBerg AM. Depressive Disorders. In: DiPiro JT, Yee GC, Haines ST, Nolin TD, Ellingrod VL, Posey LM, eds. DiPiro's Pharmacotherapy: A Pathophysiologic Approach, 12th Edition. McGraw Hill; 2023.

The correct answer is: JA should continue taking sertraline for at least 2 years

Finish review